



# Challenge 3: Innovative approaches to limit the consequences of accidental water pollution events

## Joint Expert Group on Water and Industrial Accidents

*Seminar on emerging risks in accidental water pollution:  
focus on natural hazard-triggered accidents*  
Budapest, Hungary and online, 5 October 2022

# THE NEW WARNING- AND ALERT SYSTEM OF THE SCHELDT AND RECENT POLLUTIONS



Leon Dhaene

Secretary General

International Scheldt Commission



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# The International Scheldt Commission :

*mission*  
*parties*  
*responsibilities*

## ➤ **MISSON**

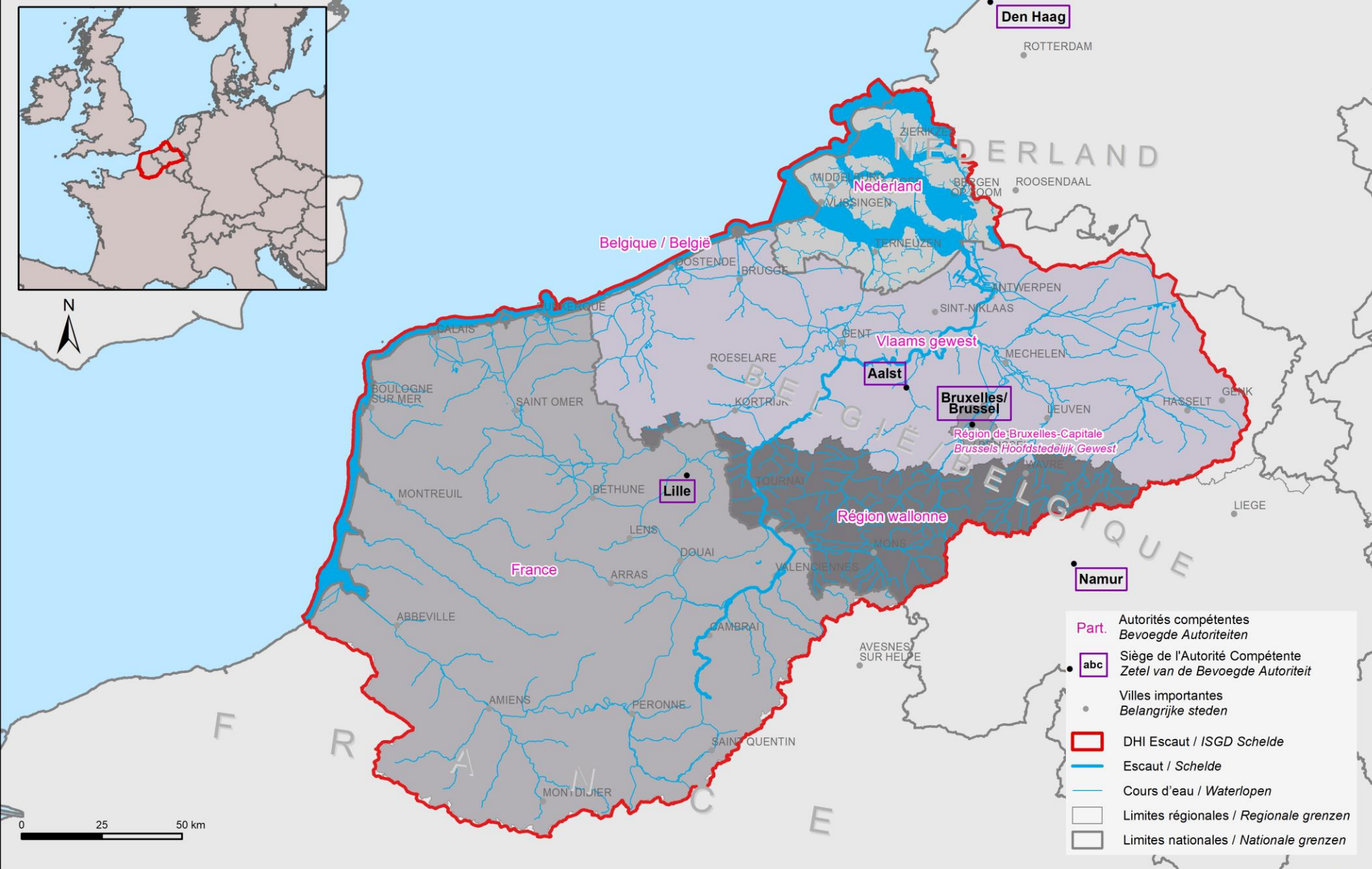
***Intergovernmental organisation*** for the coordination of joint actions and the monitoring of ***water quality and quantity*** (surface and groundwater) aiming at a ***sustainable and coordinated water management***, at the international level in the International Scheldt District.

## ➤ **PARTIES**

- France
- Flemish Region
- Wallonia
- Brussels-Capital Region
- Belgian Federal State
- The Netherlands

## ➤ **INTERNATIONAL FORUM FOR COÖRDINATION OF**

- ***European water directives*** in the Scheldt district:
  - Framework Directive Water, establishing a framework for community action in the field of water policy (2000/60/EG),
  - The EU Floods Directive, on the assessment and management of flood risks (2007/60/EG),
- ***Adaptation to climate change***, including measures to prevent and reduce the impact of drought
- Transboundary ***management of accidental pollution*** of all water bodies in the Scheldt District



- Surface : 37,170 km<sup>2</sup>
- Population : > 14,5 mio
- High population density : > 100-2000 / km<sup>2</sup>
- Water scarcity
- Dense network of waterways and motorways
- Considerable industrial & urban structure
- Intensive agriculture
- Old industrial (polluted ?) sites
- High flood risk areas

DHI Escaut - Autorités compétentes de la mise en œuvre de la DCE  
 ISGD Schelde - Bevoegde autoriteiten voor de uitvoering van KRW

Tous droits réservés: Partie faîtière du 3<sup>ème</sup> plan de gestion DCE du DHI Escaut, CIE, 2022  
 Alle rechten voorbehouden: Overkoepelend deel van de 3<sup>de</sup> KRW-beheerplan voor het ISGD Schelde, ISC, 2022  
 Projected coordinate reference system : ETRS89-LCC





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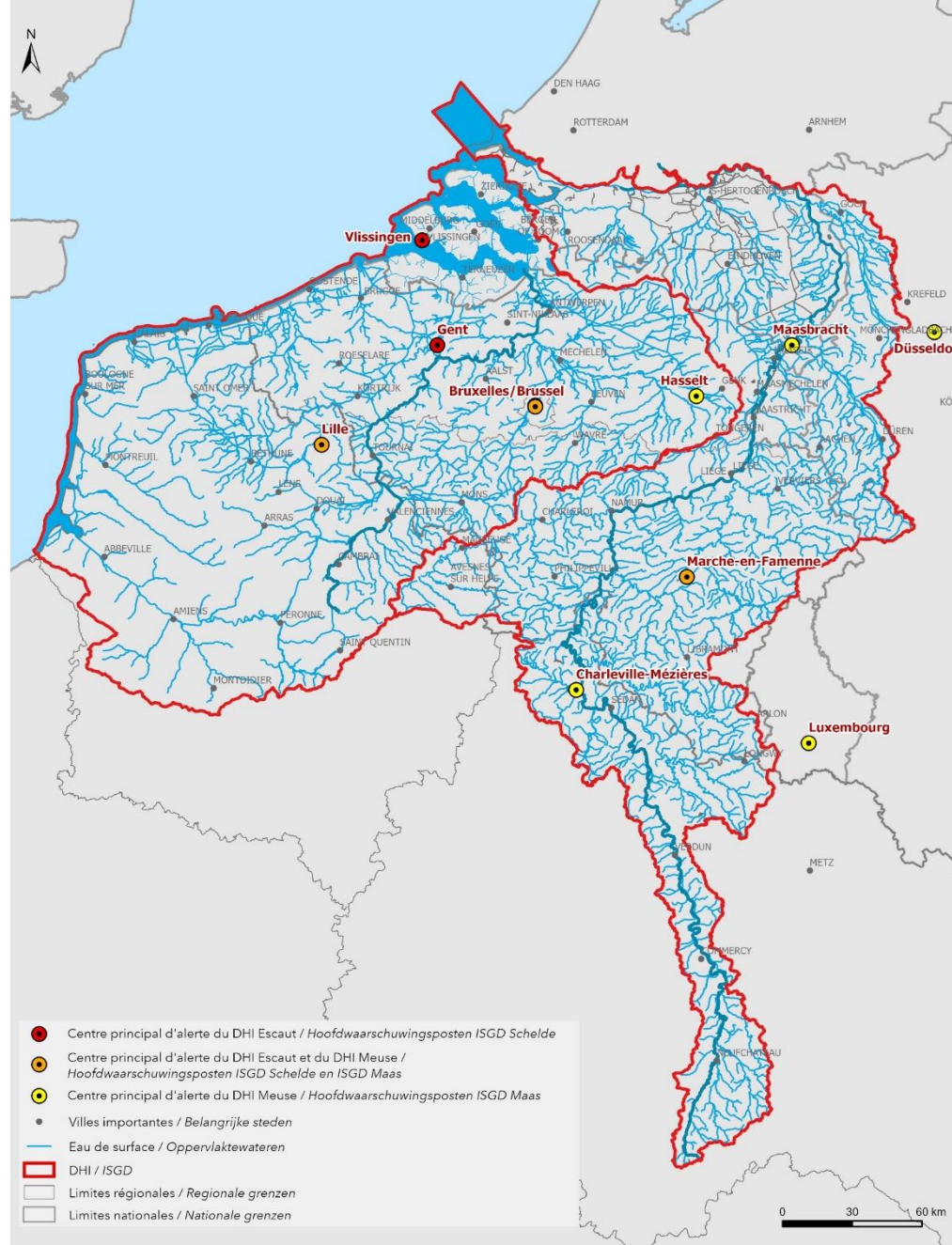
# Warning and Alert System Scheldt (WASS) : *Key features*

- = Communication system for notification of calamitous pollution posing a cross-border risk
- Connections via main warning centers
- 3 types of notifications :
  - Warning
  - Information
  - Request of information
- Information exchange via a notification form
- Monthly communication tests
- Annual exercises
- Annual workshop to discuss and evaluate the main calamitous contaminants and to review the functioning of the WAS and further develop the WAS ( together with the International Meuse Commission)



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# Warning and Alert System Scheldt (WASS): 5 main warning centers



- One in each region/country
- Contacted by regional warning centers
- Connected to WASS : decide whether an alert has an international impact or not

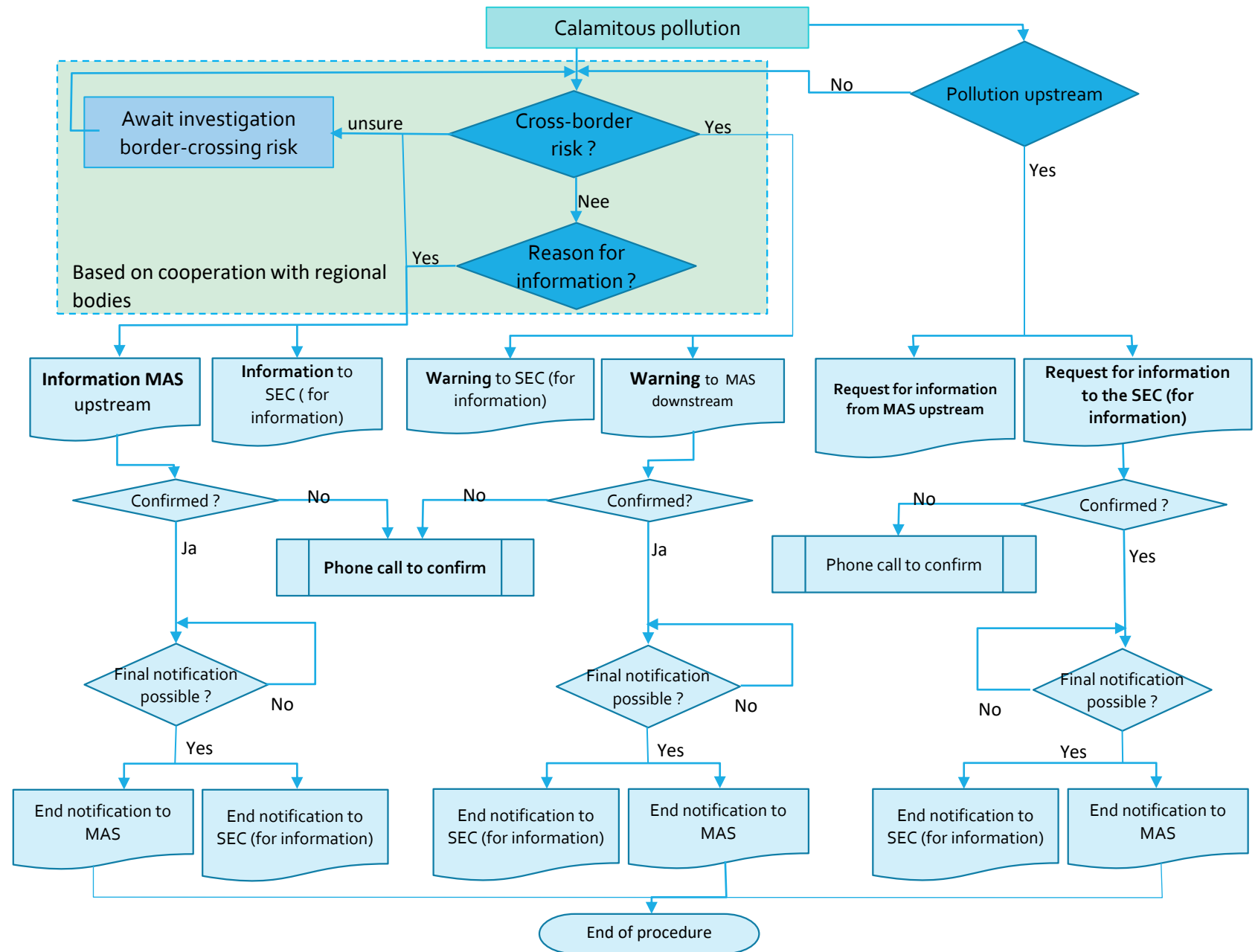
DHI Escaut et Meuse - Système d'Avertissement et d'Alerte Meuse et Escaut  
ISGD Schelde en Maas - Waarschuwing- en Alarmsysteem van de Maas en de Schelde

Tous droits réservés: Partie fallière du 3<sup>ème</sup> plan de gestion DCE du DHI Escaut, CIE, 2021  
Alle rechten voorbehouden: Overkoepelend deel van de 3<sup>de</sup> KRW-beheerplan voor het ISGD Schelde, ISC, 2021  
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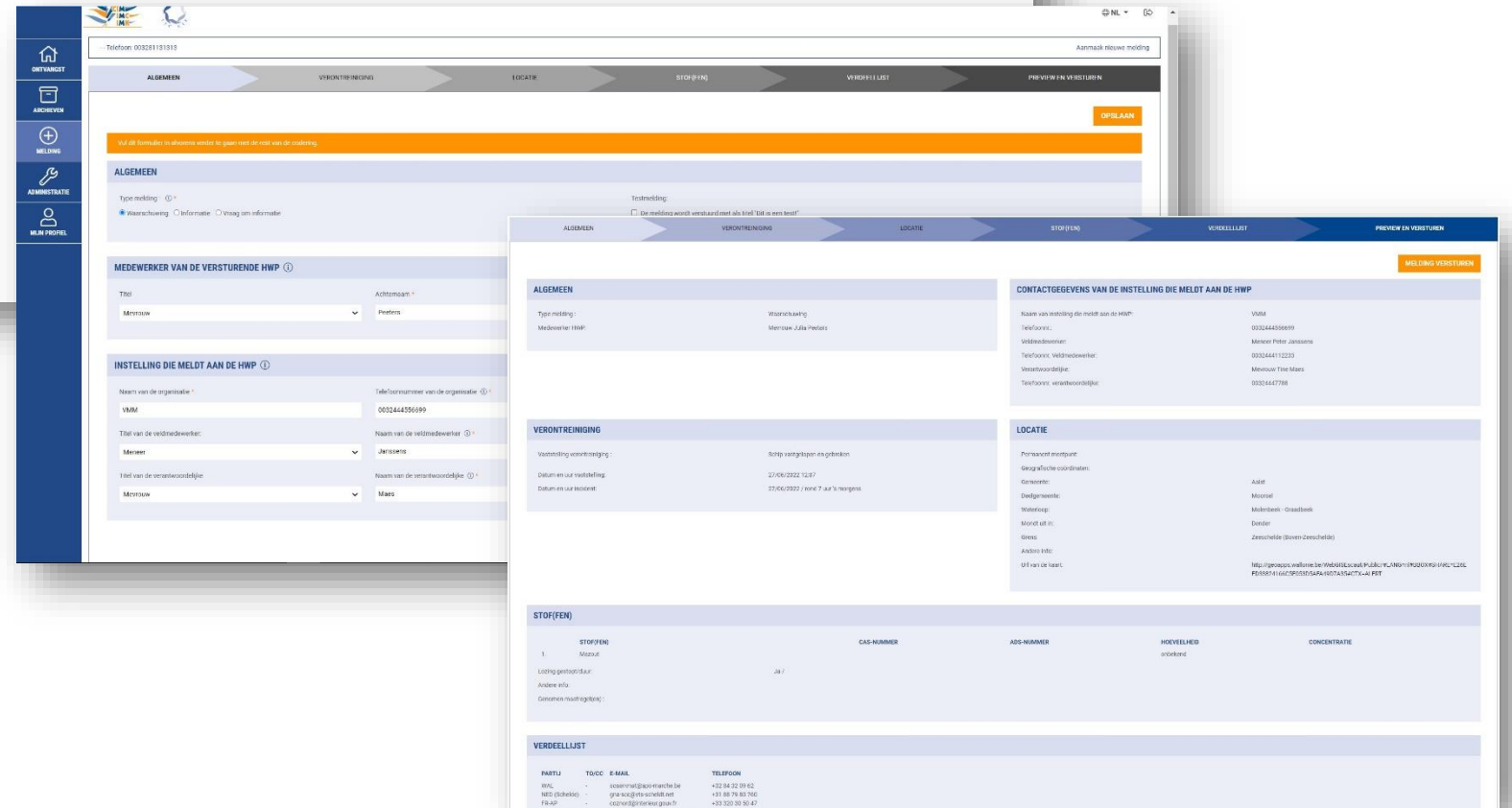
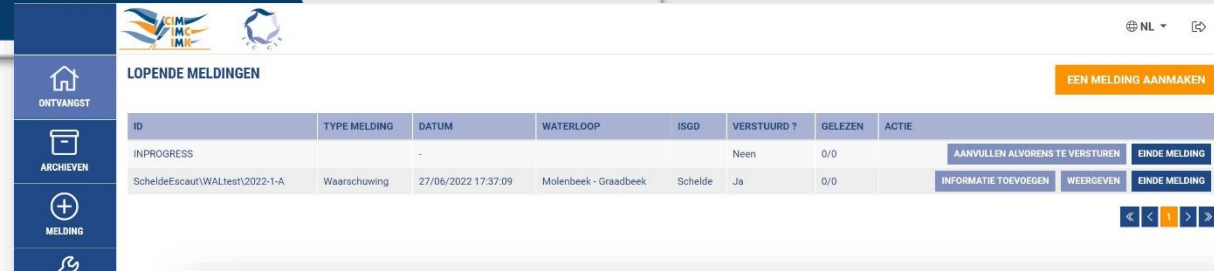
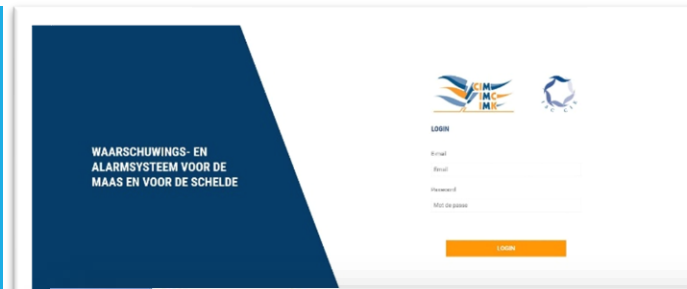
# Warning and Alert System Scheldt (WASS): Schematic representation of the notification procedure





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# Warning and Alert System Scheldt (WASS) : IT tool WAS 2.0



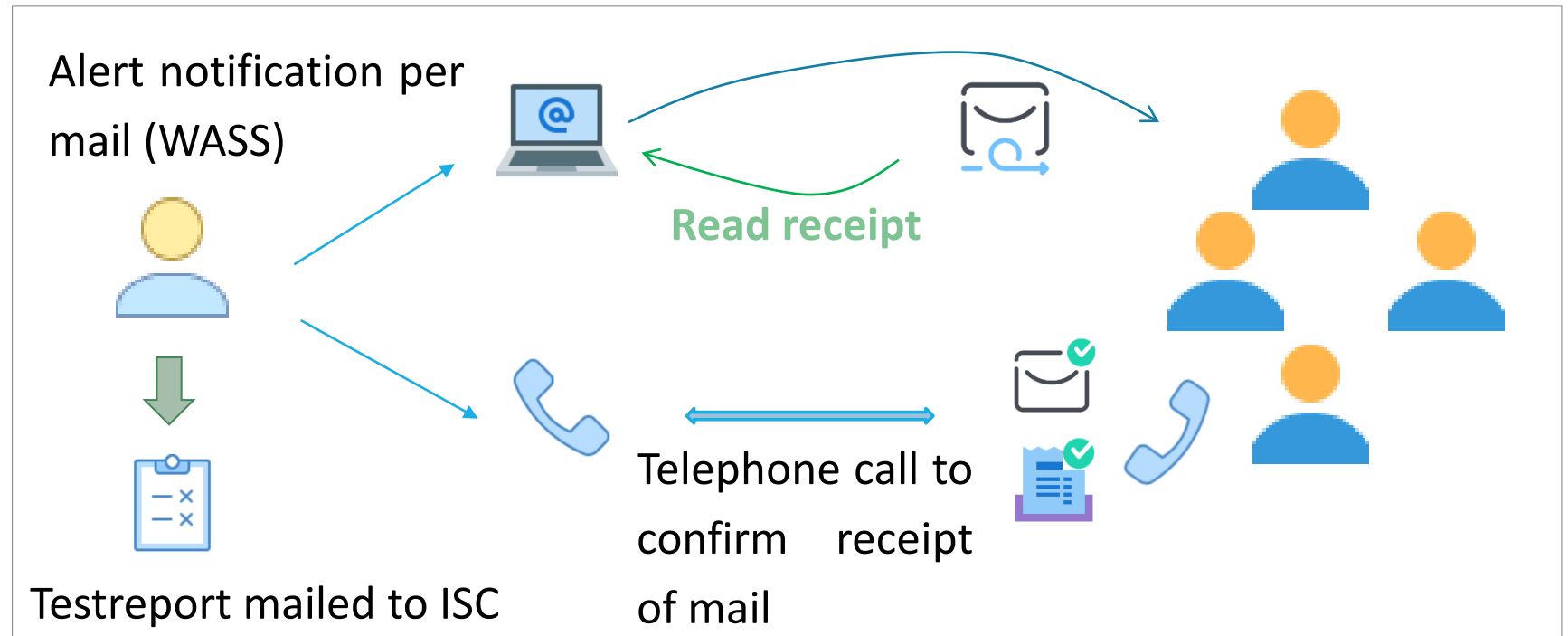




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# Warning and Alert System Scheldt (WASS): *Summary of steps in an notification of calamitous pollution*

## Message flows





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# Warning and Alert System Scheldt (WASS): *New features*

- Form pages in separate tabs
- One application for Meuse and Scheldt district, with possibility to report in both in case of trans-district canals
- Lists of municipalities and watercourses revised and updated
- Reminder “End Notification” if not sent after 3 days
- Connection to the map library WebGIS
- Addition of field with information on the person in charge
- Sending Main Alert Station has an overview of the number of messages sent and read confirmations
- Read confirmation button for messages that came in by email through the WAS
- Better consultation of the message archive



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# Case Major calamitous pollution (9 April 2020): Facts

- Dike breach in a sedimentation basin of the Téréos sugar factory in Escaudoevvres
- 100,000 m<sup>3</sup> of beet rinse water was discharged into the Scheldt (equivalent of 3,000 containers)
- Massive fish kills were reported in the local press and social media
- Sharply declining oxygen levels were detected in the Scheldt at the Franco-Belgian border in Bléharies (to zero in only few minutes)
- The breakdown of beet pulp by bacteria causes high oxygen consumption, depriving the water system of the oxygen that living aerobic organisms, not only fish, need to survive
- The Office français de la Biodiversité (OFB), the environmental police, took action ("*No issue for ecosystem nor navigation*") and judicial investigations were opened into the facts in this pollution of surface water
- Slowly moving to Belgium (Wallonia-19/04/2020, Flanders-20/04/2020)
- All fish dead over a length of about 100 km (out of 350 km total length)



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Case  
Major  
calamitous  
pollution  
(9 April 2020):  
Dead fish near the border  
between the regions  
Wallonia and Flanders  
(source: ISC)





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# Case Major calamitous pollution (9 April 2020): *Remediation*

- Adding oxygen to the water as of 21st April 2020 by the Flemish Environmental Agency (coordinated with De Vlaamse Waterweg, the Agency for Nature and Forest, the Institute for Nature and Forest Research, the local services of Fire and Civil Protection, Aquafin and Air Liquide)
- Volunteers in Wallonia and Flanders also helped transfer the surviving fish to healthy water nearby
- By deploying aerators, purifying polluted water and adding extra water, the pollution was diluted, and mass fish kills from Oudenaarde onwards could be avoided
- The pollution was diverted for Ghent via the Ringvaart to the Ghent-Terneuzen Canal



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# Case Major calamitous pollution (9 April 2020): Adding oxygen to the water (source: ISC)





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Case  
Major  
calamitous  
pollution  
(9 April 2020):  
Adding extra water to  
dilute the pollution  
(source: ISC)





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# Case Major calamitous pollution (9 April 2020): Local services teams of Fire and Civil Protection working 24/7 (source: ISC)







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# Case Major calamitous pollution (9 April 2020):

A dead shad, disappeared  
for more than 100 years,  
was rediscovered  
following the pollution  
(source: INBO)





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# Case Major calamitous pollution (9 April 2020):

The dead shad was full of eggs and ready to provide offspring  
(source: INBO)





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# Case Major calamitous pollution (9 April 2020): *Lessons learnt*

- OFB vastly underestimated the impact of this organic pollution on the ecosystem (oxygen levels dropped in no time to zero)
- Calamitous pollution was focusing too much on chemical pollution
- Detection of pollution depended too much on passers-by: few on the road because of COVID-19 lockdown
- No alert was issued by the French authorities on the 9<sup>th</sup> April 2020
- First messages on the WASS-system was an information request by Flanders (16/04/2020), replied by France 4 days later (20/04/2020)
- Local press only reported days after the events



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Case  
Major  
calamitous  
pollution  
(9 April 2020):  
Local press in Belgium nly  
reported days later  
(source: Nieuwsblad)



NIEUWS SPORT SHOWBIZZ NINA IN DE BUURT VIDEO PUZZEL

Opinie Bizar Geld Eten Tech Mobiliteit Woon Reizen Wetenschap & Planeet



© Hans Verbeke

## Het bedrijf dat met alles wekomt: Tereos, de Franse suikerreus achter de dode vissen in de Schelde

"Het is nog te vroeg om een causaal verband te trekken tussen de dijkbreuk bij onze raffinaderij en de vervuiling in België." Tot daar de droge mededeling van de Franse suikergroep Tereos over de massale vissterfte in de Schelde. Voor wie het bedrijf en zijn (recente) geschiedenis een beetje kent, komt deze ontkenning van het licht van de zon niet echt als een verrassing.

Erwin Verhoeven 02-05-20, 00:00 Laatste update: 02-05-20, 23:00

N NIEUWS SPORT REGIO SLIMMER LEVEN BILLIE PODC



## Vissen in Schelde sterven bij bosjes door dijkbreuk: "Kan de komende jaren al het waterleven doden"



© Peter Malaise



De Schelde maakt momenteel een regelrechte catastrofe door. Door een lozing van 100.000 kubieke meter bietenpulp in het Franse Cambrai is al het leven in het water bedreigd. Gisteravond was de volledige Schelde tussen de Franse en Vlaamse grens morsdood. Het zuurstofgehalte bedroeg 0,0 procent.

pma  
Woensdag 22 april 2020 om 06:00





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# Case Major calamitous pollution (9 April 2020): *Actions taken*

- Working procedures for alerts were updated (24/09/2019)
- Monthly tests of April 2020 (initiated by Flanders) and March 2020 (initiated by France) were successfully completed
- Regular reporting by ISC on this incident to delegations and the general public (as of 20/04/2020)
- “Comité de Pilotage” was created by the French Préfet Hauts-de-France to examine the pollution, identify the causes, determine the responsibilities, and define remedial measures and actions (as of June 2020)
- Evaluation report presented to the Heads of Delegation (23/06/2020), and followed-up at each following meeting
- Expert evaluation of the pollution at the annual ISC-IMC Seminar for Accidental Pollution (22/09/2020)



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Case  
Major  
calamitous  
pollution  
(9 April 2020):  
Barrage sluices around  
the city of Ghent  
remained closed to drain  
pollution into the Ghent-  
Terneuzen sea canal  
(source: Nieuwsblad)





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*for more  
information*

## ❖ Internationale Scheldt Commission

Theaterbuilding – 19de verdieping

Italiëlei 124

2000 Antwerpen

❖ Website : <https://www.isc-cie.org>

❖ Contact ISC :

Tel : +32 3206 0680

Mail : [secretariaat@isc-cie.org](mailto:secretariaat@isc-cie.org)





BELÜGYMINISZTERIUM



Bundesministerium  
für Umwelt, Naturschutz, nukleare Sicherheit  
und Verbraucherschutz

THANK YOU FOR YOUR ATTENTION!  
MORE INFORMATION CAN BE FOUND  
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